

BIGHORN NATIONAL FOREST

Land and Resource Management Plan - Draft

Forest Plan Implementation

The Role of the Bighorn National Forest Plan

The Bighorn National Forest Land and Resource Management Plan (Revised Plan) establishes programmatic direction that is used as a framework for decision-making at the project level. As such, the Revised Plan is but one part of a multi-level, decision-making framework. In order to comply with NEPA, the Endangered Species Act, the Clean Water Act, and other environmental laws, it is necessary to perform site-specific environmental analysis at a project level. This site-specific analysis is done prior to making a commitment of resources. It is impossible to prepare a forest plan and Final Environmental Impact Statement (FEIS) of sufficient specificity to identify and adequately analyze all projects or activities which may occur in the 10-15 year planning period. The Eighth Circuit Court of Appeals in *Sierra Club v. Robertson*, 28 F.3d 753 (8th Cir. 1994) recently described the nature of forest plans:

A forest plan is, in essence, a programmatic statement of intent that establishes basic guidelines and sets forth the planning elements that will be employed by the Forest Service in future site-specific decisions.

In accomplishing this task, the Revised Plan establishes direction and makes decisions in six areas:

- ◆ Goals and objectives for management.
- ◆ Forestwide standards and guidelines.
- ◆ Management area prescriptions.
- ◆ Land that is suitable for timber production and the allowable sale quantity and other resource outputs, all of which are estimates.
- ◆ Monitoring requirements to help determine how well the standards and management direction are working and whether the goals and objectives remain appropriate throughout the plan period.
- ◆ Wilderness recommendations.

Forest Plan Implementation

The Revised Plan is a broad programmatic framework for ecosystem management as outlined above. It describes desired conditions for each of the management areas across the Forest. It also outlines the general type of management activities that may take place in

the management areas in order to achieve these desired conditions. The actual management actions and associated resource commitments require a site-specific analysis and decision. Accordingly, these site-specific projects are the tools used in actually implementing the Revised Plan and ecosystem management.

A number of different steps are used to make the transition between forest plan decisions and project or activity-level decisions. These steps have been modified in recent years to address needs at a broader landscape level. The following is a short step-by-step summary of how the Revised Plan may be implemented:

Consider ecosystem function and integrity.

In implementing ecosystem management, we must provide for the long-term integrity and function of ecosystems, including their human components. As such, the scale of management actions and associated analysis will vary depending on individual ecosystem needs. In some cases, this means a rather narrow focus. In others, it may mean a landscape-level focus. For example, the simple replacement of a cattle guard should require a rather narrow focus because it impacts little else. On the other hand, watershed restoration requires a much broader perspective because of a wider range of impacts. The spatial and temporal scales used depend on the situation. When a landscape scale, or simply a systematic approach to implementing the Revised Plan is desired, the geographic areas described in Chapter 3 will serve as a basic area for further analysis. When single-purpose projects having little or no effect on other resources are analyzed, a much smaller project area can be delineated.

Describe existing conditions - What is the area like now?

In this step data is gathered, and the physical and biological condition of the area is described. Data may come from files, data bases, recovery plans, researchers, surveys, members of the public, and the forest plan.

Describe desired conditions - What do we want the area to be like?

Desired conditions for the area are usually generated from the forest plan, public participation, previous analyses, and from evaluations of the current condition. Desired conditions should be based upon ecosystem capability, sustainability, variability, and functions and on human desires and needs. These desired conditions essentially become the management goals for the area.

List possible activities

Comparing existing conditions with desired conditions could yield a list of discrepancies. Wherever these discrepancies occur, there are management needs and opportunities. A list of possible management activities should be developed to address these needs and opportunities. This list of possible management activities becomes an inventory of potential proposed actions which could be considered for future detailed environmental analysis.

Assess potential proposed actions

The list of potential proposed actions should be sorted into logical groupings; for example, actions that are similar, connected, or of the same priority. The potential proposed actions or groups of actions should be evaluated for consistency and economic, social, and technical feasibility. Analysis of these actions should not be independent of one another. The proposed actions should be analyzed and implemented so that all ecosystem conditions in the area are moved toward the desired condition. Once again, the geographic areas described in Chapter 3 provide a means for this landscape level of analysis.

Prioritize the list of potential proposed actions

Potential actions can then be prioritized based upon purpose and need, feasibility, budgets, targets, opportunity, or best intuition.

Select a proposed action or group of actions for site-specific, detailed analysis with public involvement throughout:

- ♦ Develop the purpose and need for the action.
- ♦ Define the scope of the analysis.
- ♦ Develop alternatives.
- ♦ Analyze the proposed action and alternatives.

Document the analysis and make a decision

The appropriate level of environmental and social analysis should be documented in an Environmental Impact Statement, Environmental Assessment, or Categorical Exclusion, depending on the level of significant or nonsignificant environmental impacts. A decision based on this analysis is then made by the appropriate Forest Service official.

Implement the action

Carry out the project as described in the decision. This may involve developing work plans and monitoring plans and issuing permits or contracts.

Monitor and evaluate the results

Was the action implemented as designed? Did the action achieve the desired results? How can future actions be modified to be more effective? Does the Forest Plan need to be amended? After the action is accomplished, the next step is the "recycling of knowledge." This is an assessment of the success of implementing the action. The Forest Service has an obligation to continually re-assess successes and failures to improve designs. This is known as adaptive management, and it is critical to successful implementation of ecosystem management. A review of costs, outputs, effects, and results should be included. The public should be very involved in this assessment.

Implementation Guidance for Specific Standards and Guidelines

The following section describes the rationale for the development of certain standards and guidelines (additional documentation may be added later).

Elk Security Guideline

With regards to **elk security**, considerable effort went into the definition and modeling of this habitat. It is anticipated elk security habitat will be the only method of analyzing habitat for this MIS, again at both the forestwide and project scales. The following description provides guidance at modeling and managing for this type of habitat:

Elk security is defined by Lyon and Christensen (1992) as “the protection inherent in any situation that allows elk to remain in a defined area despite an increase in stress or disturbance associated with the hunting season or other human activities.” A security area is any area that will hold elk during periods of stress.

On the Bighorn NF, elk security areas are defined as forested cover, preferably hiding cover (structural stages 3B, C and 4B, C with 60% or greater canopy cover, or structural stage 5), of at least 250 acres in size, of non-linear arrangement (not less than 1,200 feet wide), with no openings within the stand greater than five acres as correlated to stand size (5 acres for 250 acre stands, use larger openings in larger stands that may be desirable for foraging habitat), and located greater than one-half mile from any open road (Operational Maintenance Level 2 – 5) or motorized trails. Potential security areas are defined with the same cover elements described above, but with Operational Maintenance Levels Roads 3 – 5 buffered out one-half mile, as it was assumed that the level of investment in these roads was high enough to warrant not considering closing them.

At the project scale, elk security areas include the following direction:

- ♦ Favor areas of non-harvested timber (unroaded) where less access is provided in the form of trails or past closed roads.
- ♦ Favor north aspect spruce-fir stands over other timber types, but provide a diversity of stands in relation to their natural distribution in the geographic area. This may also coincide with delineation or management for old growth conifer.
- ♦ Consider providing security areas in proportion to the natural distribution of slopes in the geographic area.
- ♦ Make sure security areas are well-distributed within and between geographic areas where possible, rather than grouped in one location in a larger block.
- ♦ Consider elements of topography that provide additional security when conducting project analysis.
- ♦ Field verify structural stage conditions of forested cover prior to project modeling or effects analysis.

Elk security is defined in Hillis et al. (1991), and its application was modified with slope considerations to encompass elk habitat effectiveness considerations as defined by results of local research {Sawyer 1997}. Security applies to year-long habitat considerations, as local research also documented elk undergo stress beginning in July, and not just the hunting season. Security habitat may be enhanced by seasonal road closures on Level 2 roads, however this type of closure is not relied upon due to volume of traffic (foot and otherwise) on “gated” roads. Snowmobile routes are not considered in security habitat, as other direction applies to elk calving area management. Refer to Hillis (1991) for other road placement considerations during project analysis. Security habitat may also be moved through time, as forested areas effectively regenerate and mature and roads are closed.

Elk hiding cover is defined as vegetation capable of hiding 90% of a standing adult elk from the view of a human at a distance equal to or less than 200 feet (Lyon and Christensen, 1992). Smith and Long (1987) also provides descriptions of hiding cover with relation to vegetation management activities. Elements of topography (e.g., rock, ridges, or other barriers) should also be considered in elements of cover attributes.

When closing roads to create or improve elk security, roads should be closed to discourage use by people as compared to the surrounding terrain. A variety of methods including slash, barriers, re-contouring, etc. may be employed along all or portions of the road to achieve this. Exceptions may include areas where a hiking trail is established, recognizing its impact on the effectiveness of the security area. The impetus for this consideration is evident from research conducted on hunter behavior, favoring any kind of road and trail to “undeveloped” terrain {Lyon and Burcham 1998}.

Biodiversity Guideline #9 (100'-300' Riparian)

This area was not viewed as a “hands-off” management area with a buffer. The objectives for any timber harvest conducted should be for other resource values (e.g. structural stage diversity, wildlife habitat). It was modeled for harvesting estimates with a coefficient to incorporate the information below (approximately 50% of normal volume in these acres).

The area was designed to provide a corridor of forested canopy along riparian areas where most animals will travel or inhabit. Species specifically considered would include the American marten, the three-toed woodpecker, olive-sided flycatcher, and amphibians. It would also provide the most valuable habitat for concentrations of red squirrels, an MIS. This zone is important as the most complex forested systems typically occur here due to the proximity to increased moisture (perennial streams) and longer fire return interval.

Within spruce/fir and Douglas-fir stands, it is anticipated that the most beneficial use for this site would be to manage for old growth conditions as defined by Mehl. An exception to this would be riparian areas where shrubs (e.g., willows) or herbaceous vegetation is being succeeded by spruce/fir, in which case the spruce/fir may be removed (usually within 100' of streams) to provide continued younger seral stage. Within lodgepole and ponderosa stands, more variety in structural stages could be considered, particularly given

APPENDIX D

shorter fire return intervals. Insects and disease may also be evident in these areas, though if at endemic levels, deemed appropriate for habitat needs (snags, etc.), depending on management area prescription.

It is also noted that as slope increases (>45%), the values of the zone more rapidly decrease, due to removal from the microclimate influence. This can be factored in to the management of the area at the site-specific scale.

In assessing desired management activities for a project, consider the condition of other similar zones within the 6th-level HUC watershed. If alteration of the zone (in structural stage or complexity) has occurred in a majority of other stream reaches, it would be beneficial to delay activities within the reach being considered.

With regards to roads, new roads should not be developed in this zone. Existing roads and trails should receive maintenance priority to minimize erosion potential. Watershed or roads analysis should dictate whether there is a need to move existing roads out of this zone (e.g., cumulative amount of roads within 300' zone in 6th-level HUC watershed).